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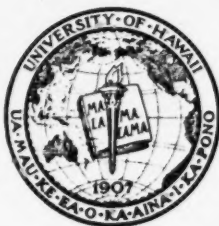
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ABSTRACT

This project, part of a 7-year Ford Foundation program, was designed to modify the teacher education program at the University of Hawaii. The research evaluated preservice and in-service teaching performance, as well as attitudinal and cognitive characteristics of teachers who had been enrolled in the modified curriculum, compared with similar characteristics of teachers enrolled in the regular program. Data analysis was based on official transcripts, student teaching evaluations, the National Teacher Examination scores, and observation and assessment of graduates teaching in Hawaii. The attrition of data revealed some variation between the two groups but no marked differences. (A review of each program area and variation patterns are presented.) (MJM)

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EDUCATION RESEARCH AND DEVELOPMENT CENTER

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EVALUATIVE DATA PERTAINING TO
A MODIFIED TEACHER EDUCATION PROGRAM AT
THE UNIVERSITY OF HAWAII: A SUMMARY REPORT

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A Report
of the
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FOREWORD

1966-67 marked the final year of a seven-year program of Projects for the Improvement of Education in Hawaii, a program conducted with grant funds appropriated by The Ford Foundation.

The seven-year program, approved by The Ford Foundation in 1960, was planned as a direct-action effort to improve education through pre-service and in-service teacher education.

The overall objective was the stimulation of thinking about teacher preparation and instructional procedures that might lead to improved opportunities for learning on the part of pupils in Hawaiian schools.

Activities planned for the program ranged from innovation and modification in curricula for the preparation of beginning teachers to in-service activities focusing upon demonstration and actively supervised dissemination of newly developed procedures and materials in classrooms of experienced public school teachers.

Five major projects were initially selected as the basic concerns of the UH-DE Projects for Improvement of Education in Hawaii:

- Project A -- Modifications in the College of Education's Curricula for Teacher Preparation
- Project B -- Exploration of Conditions Contributing to Successful Completion of Teacher Preparation Programs at the University of Hawaii
- Project C -- Development, Demonstration, and Implementation of Team-Teaching Procedures
- Project D -- Introduction of New Mathematics Curriculum Materials for Academically-Talented Students
- Project E -- Introduction of New Science Curriculum Materials for Academically-Talented Students

The research carried out and reported here by Mr. Donald G. Aten, EDRAD staff member in 1966-67, pertains to "Project A" and seeks to evaluate pre-service and in-service teaching performance, as well as attitudinal and cognitive characteristics of teachers who had been enrolled in the

modified curriculum (referred to locally as the Ford program) compared with similar characteristics of teachers who had been enrolled in the regular teacher education program at the University of Hawaii circa 1960.

Project A was planned and conducted as a demonstration project in teacher education. The major feature of the program was the involvement of students in a reduced and modified professional education curriculum which postponed the major portion of professional study until later college years and provided heavy concentration upon liberal arts subject matter, particularly English, foreign language, mathematics, and the arts, during the first three years at the University of Hawaii.

How did the "modified" and "regular" programs compare in terms of course requirements and introductory professional experiences? How did the students pursuing one or the other curriculum compare at the time they entered college as freshmen in 1961? How did they compare at time of graduation and "practice teaching"? How did those who completed the programs compare after employment, i.e., during the spring of 1967? These are the kinds of questions about which we wanted some answers; and these are the kinds of questions to which the studies reported here were directed.

David G. Ryans, Director
Education Research and Development Center

EVALUATIVE DATA PERTAINING TO A MODIFIED
TEACHER EDUCATION PROGRAM AT THE UNIVERSITY OF HAWAII:

A SUMMARY REPORT*

(Summary Statement Regarding Project A of The Ford Foundation
Sponsored "Projects for the Improvement of Education in Hawaii")

Donald G. Aten

In 1960 The Ford Foundation, through its Fund for the Advancement of Education, approved a grant to the College of Education, University of Hawaii to permit the formulation and implementation of an experimental teacher education curriculum. It was planned that the "experimental" Ford program would be conducted concurrently with the established University of Hawaii teacher education program.

The series of studies reported here was carried out during the 1966-67 academic year in an effort to evaluate the modified liberal arts oriented teacher education program and, insofar as possible, make comparisons of in-service teachers who had completed (a) the modified program and (b) the "regular" program.

The investigations here summarized are reported in detail, together with a complete description of the "experimental" teacher education curriculum, in A Modified Teacher Preparation Program at the University of Hawaii.*

* Donald G. Aten, A Modified Teacher Preparation Program at the University of Hawaii, University of Hawaii, Education Research and Development Center, 1967, 211 p.

The Subjects and the Programs

Subjects

The 330 students who entered the University of Hawaii College of Education as freshmen in September, 1961, were originally assigned to the two programs on a stratified random sampling basis: 165 to the experimental program (hereafter referred to as the "Ford program") and 165 to the regular program.

Chi square tests were employed (in 1966) to determine possible differences between the two original groups of students with regard to: secondary school background, i.e., size of school, type of school (public or nonpublic), and location (urban or rural); rank (quintile) in graduating high school class; sex; and Ohio State University Psychological Test scores. The differences proved to be small and none was statistically significant.

It should be noted that, as in most social behavioral studies, rigorous comparison of the "experimental" and "regular" groups, even for the groups randomly assigned as freshmen in 1961, was not possible. Compulsion of students to complete the full requirements of the Ford curriculum as originally planned proved difficult. Furthermore, following the first year, 1961-62, random assignment of freshmen to experimental and regular groups was not maintained due to wishes of students to choose the program preferred and to pressure from the community that such choice be allowed. As a result of some contamination of the originally identified groups, inferences drawn from comparative study necessarily are limited.

Experimental program

The first three years of the experimental program were devised by a "Liberal Arts Committee" comprised of College of Arts and Sciences faculty. The proposed program was developed to focus on communication in a broad sense and emphasize the various "languages" through which man communicates: verbal language, including both English and foreign languages; the language of mathematics; and the languages of music and art. Each student in the experimental or "Ford" program was expected to enroll in courses in each of three "language systems" in each of six semesters--the English language, a foreign language, and mathematics--and to complete a ten-semester-hour sequence in music and art.

Another committee comprised of College of Education faculty formulated the requirements for the fourth and fifth years of the Ford experimental program. In addition to a sequence of professional education courses, the program prescribed a one-semester part-time student teaching experience during the fourth year and a full-time one-semester internship in the fifth year. (As also noted in the following section with respect to students enrolled in the "regular program," a number of the Ford curriculum students did not complete the fifth year full-time teaching internship.) A portion of both the fourth and the fifth year continued to be given to general education courses.

In contrast to the regular teacher education curriculum the Ford program was characterized by more emphasis on "communication and language" (English, foreign language, mathematics, music, and art), a larger proportion of the total program devoted to general (liberal arts) education, and a smaller proportion of the total program devoted to professional

education courses. Also, the part-time student teaching prescribed for the Ford students differed from the full-time teaching required of the regular students.

Regular program

The "regular" teacher education curriculum was the program that had been in existence at the University of Hawaii for a number of years. The first two years were devoted primarily to general education, but with some introduction to professional education. The last three years prescribed both general and professional education courses (in varying proportions from semester to semester) but with substantial emphasis on professional education. Prescribed in the professional sequence was one semester of full-time student teaching in the fourth year and one semester of full-time intern teaching in the fifth year; however, limitation of available assignments in some fields and failure to participate in the internship phase resulted in a number of students not having the benefit of this experience.

Overview of Procedures

Data on the 330 individuals initially enrolled in the two programs were assembled and all available records reviewed in order to ascertain the current status of each participant and to identify attrition and subsequent activities of the individuals who failed to complete the programs. In all, 139 of the original 330 freshmen completed at least the four undergraduate years of teacher education and 117 completed the intern teaching portion of the fifth year. Of the original group, 81 of the graduates were teaching in Hawaii in 1967-68.

The official transcripts of 135 of the 189 individuals were analyzed to obtain data on the courses actually completed by the graduates and to judge the extent to which these courses were consistent with the requirements of the respective programs.

The student teaching evaluations on all 189 graduates of the two programs were analyzed, as were the intern teaching evaluations of 115 of the 117 individuals who completed intern teaching.

The National Teacher Examinations scores of 133 of the 189 graduates of the two programs were available for analysis; various comparisons were made of these data.

The classrooms of 81 of the graduates who were teaching in Hawaii were visited for observation and assessment. The Classroom Observation Record was used to secure teacher behavior data. Two observers, trained in use of the Classroom Observation Record, assessed each of the teachers, providing quantitative information, particularly about "warm, understanding" teacher classroom behavior, "systematic, responsible, organized" teacher behavior, and "original, stimulating" teacher classroom behavior.

The same 81 graduates also responded to the Teacher Characteristics Schedule to provide data on attitudes, educational viewpoints, verbal understanding, and adjustment, as well as additional data on "inventory correlates" of the three patterns of teacher behavior yielded by the assessments based on direct observation.

Summary of Findings

Attrition

The attrition data revealed some variation between the two groups, but no marked differences. A total of 96 of the 165 individuals initially enrolled in the "Ford curriculum" completed the undergraduate phase of the

same program. Similarly, 93 of the original "regular curriculum" students completed the undergraduate phase of that program. There were 18 Ford students and 18 regular students who did not complete the program to which they had been initially assigned, but received bachelor degrees from the University of Hawaii after completing other undergraduate programs. (Ten of these students graduated in education and 26 in other academic disciplines.)

Programs

Although virtually all of the Ford students completed the requirements of their program in English, music, and art, almost two-thirds of them failed to complete the mathematics sequence and about one-third of them failed to complete the foreign language sequence.

Nonetheless, at the time the baccalaureate was granted the average Ford student had completed 67.9 semester hours of communication and language courses--more than double the amount completed by the average regular teacher education student.

In the course of four undergraduate years, the "Ford students," on the average, completed a total of 114.8 semester hours of general education courses--21.8 more semester hours than their regular teacher education curriculum counterparts.

The average regular curriculum student completed 44.1 semester hours of undergraduate professional education (including student teaching). The average Ford student, in contrast, completed only 23.3 semester hours.

The typical Ford student devoted 49.2 percent of his 138 semester-hour undergraduate program to communication and language courses, 34.0 percent to other general education courses, 12.5 percent to education courses, and

4.3 percent to student teaching. The breakdown for the 137 semester-hour undergraduate program of the average regular teacher education curriculum student was 24.1 percent, 43.7 percent, 22.0 percent and 10.2 percent, respectively.

Student Teaching

The Ford program prescribed a part-time student teaching experience extending over one semester, with concurrent enrollment in professional education courses. The regular program in contrast, entailed a full-time one-semester student teaching experience. At the end of the student teaching semester, the supervising teacher evaluated the performance of each student teacher on a 16-variable (elementary) or a 38-variable (secondary) rating form.

No statistically significant differences between the Ford and regular secondary student teachers were obtained for any of the 38 variables on which they were rated.

There were, however, significant differences between the Ford and regular elementary student teachers on eight of the 16 variables on which they were rated. In the opinion of the supervising teachers, the regular elementary student teachers were more able to establish relationships with children, more competent in planning, better able to foster growth in appreciations and attitudes, more responsible and cooperative, more effective in evaluation, and more effective in counseling. No significant differences between the Ford and regular elementary student teachers on variables dealing with academic background, interest in children, use of community resources, effective instructional procedures, and professional attitudes.

National Teacher Examinations

It is an established practice at the University of Hawaii to administer the National Teacher Examinations to all College of Education students several months prior to the date of award of the baccalaureate degree.

The mean scores of the Ford curriculum elementary students who completed undergraduate study and graduated were significantly higher than those of their regular elementary curriculum counterparts on two of the three General Education Tests: Social Studies-Literature-Fine Arts; and Science-Mathematics. The "advisory part score" data seemed to suggest that the strength of the Ford elementary students was greater in the areas of literature, fine arts, and mathematics than in the areas of social studies and science. There was no significant difference between the mean scores of the Ford and regular elementary students on the third General Education Test, Written English Expression.

The differences between the means of the Ford and regular secondary teacher education students on "total score" of the three General Education Tests were not statistically significant.

The performance of both the Ford curriculum and the regular curriculum teacher education students on the General Education Tests was generally above average when compared to that of the students in the national norms group.

The regular elementary students attained mean scores significantly higher than those of their Ford peers on two of the three Professional Education Tests--Societal Foundations of Education, and Principles and Practices of Teaching--but there was no difference between the Ford and regular elementary students on the third Professional Education Test, Psychological Foundations of Education.

Again the differences between the mean scores of the Ford and regular secondary students on all three of the Professional Education Tests were nonsignificant.

The performance of both the Ford and the regular curriculum teacher education students on the Professional Education Tests was well above average compared to that of the students in the national norms group.

Intern Teaching

In contrast to the student teaching practicum, which represented a potentially important difference between the Ford and regular professional education programs, the fifth-year intern teaching requirement was the same for both programs.

The intern teacher was appointed to a full-time position in a public school for one semester. The duties and responsibilities were comparable to those of any other teacher except that the intern was under the supervision of an intern supervisor.

A number of individuals (31 Ford and 36 regular) completed one or the other of the undergraduate programs, but did not assume intern teaching positions; the number of internships available through the Department of Education was limited, and even when assignments were available some graduates chose not to participate in the intership (the State Department of Education would accept applications and make appointments, when the need for teachers was great, in absence of the 5th year internship). Of the 122 individuals who commenced intern teaching, five (4 Ford and 1 regular) either failed or withdrew before the end of the semester.

At the end of the intern teaching semester, the supervisor of each intern teacher evaluated his performance on a 16-variable (elementary) or 11-variable (secondary) rating form.

The differences between the mean ratings of the Ford and regular elementary intern teachers were small and nonsignificant. This may reflect unreliability of ratings of either/or both student teaching and intern teaching; in any event marked differences which existed in the ratings at the completion of student teaching were not evident in intern supervisor's ratings at the end of a semester of intern teaching.

No significant differences were obtained between the ratings of the Ford and regular secondary intern teachers; as noted earlier, neither had there been any significant differences between the two groups at the end of student teaching.

Classroom Observation Data

Classroom observation and assessment was conducted by trained observers in the spring of 1967 for all 81 teachers (both those who completed the Ford curriculum and the regular teacher education curriculum) who had begun their college careers as freshmen in 1961 and were employed in the State of Hawaii in 1966-67.

The instrument used to guide the observations and permit assessment was the Classroom Observation Record. As described in the literature *this instrument provides for an assessment on each of 18 first-order teacher behavior dimensions and four first-order pupil behavior dimensions. The assessments on the first-order dimensions are combined in a prescribed manner (based upon data yielded by factor analyses of large groups of experienced elementary and secondary teachers) to yield composite scores (assessments) on each of three teacher behavior patterns:

*David G. Ryans, Characteristics of Teachers, Washington, American Council on Education, 1960, 416 p.

X - warm, understanding, friendly, vs. aloof, egocentric,
restricted teacher behavior

Y - responsible, business like, systematic vs. evading,
unplanned, slipshod teacher behavior

Z - stimulating, imaginative, surgent vs. dull, routine
teacher behavior

The two observers participating in the present study were trained in essentially the same manner as the observers who had participated in the Teacher Characteristics Study.* All possible steps were taken to minimize observer error attributable to possible observer bias or non-representative behavior on the part of the teacher (and pupils).

Differences between the mean classroom behavior assessments of teachers who had completed the Ford curriculum and the regular teacher education curriculum were not significant for any of the three patterns noted above; this lack of difference between groups held true for both elementary and secondary teachers.

The most striking (although not statistically significant) difference between the Ford and regular elementary teachers was on teacher behavior pattern Y. The behavior of the Ford curriculum teachers appeared to be closer to the "responsible, business-like, systematic" pole of the continuum than that of the regular teacher.

The most pronounced (again, not statistically significant) difference between the Ford and regular secondary teachers was on teacher behavior pattern X. The behavior of the regular curriculum teachers appeared to be closer to the "warm, understanding, friendly" pole of the continuum than that of the Ford teachers.

*See preceding reference.

Attitudes, Educational Viewpoints, Adjustment, and Verbal Understanding

The Teacher Characteristics Schedule* was administered to the first-year teachers (41 Ford and 40 regular) who also were observed in their classrooms. The teachers completed the Schedule in the spring of 1967.

The Teacher Characteristics Schedule yields scores on ten variables, six of which were treated at some length in this study. (Scores reflecting the variables of classroom performance that were directly observed, as noted under "classroom observation," are reported in the complete report, but are not given detailed consideration.)

The three attitude (opinion) variables analyzed were: "favorable vs. unfavorable opinions of pupils," "favorable vs. unfavorable opinions of democratic classroom procedures," and "favorable vs. unfavorable opinions of administrative and other school personnel." Three additional variables, "learning-centered (traditional) vs. child-centered (permissive) educational viewpoints," "superior vs. poor verbal understanding (comprehension)," and "emotional stability (adjustment) vs. instability" were also studied.

There was a substantial and statistically significant difference between the Ford and regular elementary teachers on the "opinions of administrative and other school personnel" variable--the regular teacher education curriculum teachers appeared to have more favorable opinions of administrative and other school personnel than the Ford teachers. Differences between the Ford and regular elementary teachers on the other two attitude (opinion) variables, and with respect to educational viewpoints, were nominal and not statistically significant.

*See preceding reference.

There were substantial (but not statistically significant) differences between the Ford and regular curriculum secondary teachers on three variables. The more "favorable opinions of pupils," more "favorable opinions of democratic classroom procedures," and more "child-centered (permissive) educational viewpoints" expressed by the regular curriculum teachers appeared to be consistent with their higher assessment (observation data) with regard to the "warm, understanding, friendly" teacher behavior pattern X. The difference between the Ford and regular secondary teachers on the "opinions of administrative and other school personnel" variable was small and not statistically significant.

Differences between the Ford curriculum and regular teacher education curriculum teachers (both elementary and secondary) on the "adjustment" and "verbal understanding" variables were not statistically significant.

Elementary teachers (both Ford and regular) from the University of Hawaii appeared to have more favorable opinions of pupils, more favorable opinions of democratic classroom procedures, and more favorable opinions of administrative and other school personnel than the secondary teachers (Ford and regular). The finding is similar to that reported by the Teacher Characteristics Study.*

The finding that the relative position of the Ford curriculum secondary teachers on the "educational viewpoints" continuum, i.e., closer to the learning-centered (traditional) pole than the elementary teachers (Ford and regular), was consistent with the findings of the Teacher Characteristics Study suggesting that secondary teachers tend to

*See preceding reference.

express more learning-centered (traditional) educational viewpoints than elementary teachers. However, the position of the regular curriculum secondary teachers on the educational viewpoints continuum--closer to the child-centered, or permissive pole than the elementary teachers (Ford and regular)--is difficult to explain.

Concluding Note

(David G. Ryans, Director, EDRAD)

Although some differences between two groups, (a) teachers who pursued a liberal arts oriented teacher education curriculum (Ford group) and (b) teachers who followed the regular teacher education curriculum involving a greater amount of course work in professional education and more time spent at student teaching, were observed in this six year longitudinal study, a reasonable conclusion seems to be that one program does not produce strikingly different teaching performance than the other. The fact should be kept in mind, of course, that clearly defined comparison groups of participants seldom if ever can be maintained throughout programs conducted in a real world setting and both identifiable and unidentifiable contamination of original samples mitigates against clear-cut findings.

It is important to note that the modified teacher education curriculum (as provided for the so-called Ford group of students) did achieve approximately the same effects as the so-called regular program. Where differences between groups were found, they usually were small and sometimes favored one curriculum group and sometimes the other.

The impact of "the modified Ford curriculum," described and analyzed in this report, on the currently (1967-68) operating teacher education program at the University of Hawaii has been notable in giving impetus to a re-study of teacher education (1966), the end product of which were significant changes in courses, experiences, and related requirements of students now preparing themselves to teach in the State of Hawaii.